

# Comparisons of Job Characteristics

Focus Occupation: **Biomedical Engineers (17-2031)**

Associated Occupation: **Epidemiologists (19-1041)**

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

## Knowledge

Similarity of Focus Occupation to Associated Occupation: 38

Focus Occupation: Biomedical Engineers (17-2031)

Associated Occupation: Epidemiologists (19-1041)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Mathematics	9.2	18.7	20.2	0	Current knowledge level may be sufficient
English Language	11.2	17.6	16.5	0	Current knowledge level may be sufficient
Biology	3.7	16.5	21.2	>>	Current knowledge level is likely more than sufficient
Medicine and Dentistry	3.7	12.7	14.4	>	Current knowledge level is likely sufficient
Sociology and Anthropology	4.1	11.6	2.6	<<	Extensive education and/or training may be required
Geography	3.9	8.8	2.7	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Skills

Similarity of Focus Occupation to Associated Occupation: 78

Focus Occupation: Biomedical Engineers (17-2031)

Associated Occupation: Epidemiologists (19-1041)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Science	4.5	18.2	17.1	0	Current skill level may be sufficient
Reading Comprehension	10.7	16.7	16.9	0	Current skill level may be sufficient
Active Listening	11.0	14.6	14.1	0	Current skill level may be sufficient
Critical Thinking	10.8	14.6	16.2	>	Skill level is likely sufficient
Writing	9.2	14.3	12.7	<	A higher skill level may be required
Complex Problem Solving	9.1	13.9	15.1	0	Current skill level may be sufficient
Judgment and Decision Making	9.4	13.9	15.1	0	Current skill level may be sufficient

Monitoring	9.9	13.3	12.2	0	Current skill level may be sufficient
Active Learning	8.7	13.0	13.8	0	Current skill level may be sufficient
Coordination	9.1	11.8	9.9	<	A higher skill level may be required
Systems Analysis	6.5	11.8	12.3	0	Current skill level may be sufficient
Systems Evaluation	6.4	11.5	12.2	0	Current skill level may be sufficient
Mathematics	6.2	11.0	14.2	>>	Skill level is likely more than sufficient
Operations Analysis	5.0	9.5	14.6	>>	Skill level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Abilities

Similarity of Focus Occupation to Associated Occupation: 95

Focus Occupation: Biomedical Engineers (17-2031)

Associated Occupation: Epidemiologists (19-1041)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Oral Comprehension	12.5	16.4	16.1	0	Current ability level may be sufficient
Problem Sensitivity	11.1	16.2	16.3	0	Current ability level may be sufficient
Written Comprehension	11.0	16.0	16.6	0	Current ability level may be sufficient
Oral Expression	12.4	15.7	15.3	0	Current ability level may be sufficient
Inductive Reasoning	10.2	15.2	16.8	>	Current ability level is likely sufficient
Written Expression	9.8	15.0	13.9	0	Current ability level may be sufficient
Deductive Reasoning	10.6	14.6	17.6	>	Current ability level is likely sufficient
Category Flexibility	9.0	12.2	13.6	>	Current ability level is likely sufficient
Fluency of Ideas	7.6	11.8	12.3	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	11.5	13.6	>	Current ability level is likely sufficient
Number Facility	6.3	11.0	11.2	0	Current ability level may be sufficient
Memorization	5.6	8.4	6.9	<	Some improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Activities that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 77

Focus Occupation: Biomedical Engineers (17-2031)

Associated Occupation: Epidemiologists (19-1041)

Work Activities	Exclusivity of Activity
Advise clients or customers	19
Analyze scientific research data or investigative findings	27
Collect scientific or technical data	30
Communicate technical information	4
Confer with research personnel	50

Confer with scientists	54
Develop or maintain databases	30
Develop plans for programs or projects	31
Develop policies, procedures, methods, or standards	21
Develop tables depicting data	33
Direct and coordinate activities of workers or staff	3
Direct and coordinate scientific research or investigative studies	27
Explain complex mathematical information	30
Plan scientific research or investigative studies	48
Prepare reports	8
Prepare technical reports or related documentation	22
Use biological research techniques	68
Use computers to enter, access or retrieve data	3
Use government regulations	44
Use knowledge of investigation techniques	16
Use library or online Internet research techniques	21
Use mathematical or statistical methods to identify or analyze problems	30
Use project management techniques	47
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Tools and Technologies that Both Occupations Have in Common

Similarity of Focus  
Occupation to Associated  
Occupation: 74

**Focus Occupation: Biomedical Engineers (17-2031)**  
**Associated Occupation: Epidemiologists (19-1041)**

Tools and Technologies	Exclusivity
Computers	1
Content authoring and editing software	1
Data management and query software	1
Industry specific software	1

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.